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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,274	10/04/2005	Yukimasa Nagai	2611-0246PUS1	4018
2292 7590 10/15/2008 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER PHAM, BRENDA H				
ART UNIT		PAPER NUMBER		
2416				
NOTIFICATION DATE		DELIVERY MODE		
10/15/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

### Office Action Summary

**Application No.**

10/552,274

**Applicant(s)**

NAGAI ET AL.

**Examiner**

BRENDA PHAM

**Art Unit**

2416

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 58-60, 62-68, 70-78, 80-82, 84, 85, 87-89 and 91 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 58-60, 62-66, 72-78, 80-82, 84 and 87-89 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) 70 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 04/11/08
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Claims 58-60, 62-68, 70-8, 80-82, 84-85, 87-89 and 91 are pending in the application.
2. The indicated allowability of claims 67, 85 and 91 is withdrawn in view of Redi (US 6,556,582). Rejections based on the cited reference(s) follow.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 67-68, 71, 85 and 91 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Redi (US 6,556,582 B1).

With respect to independent claims 67-68, 85 and 91, Redi discloses a radio terminal employing carrier-sense-multiple-access (**CSMA**) with request-to-send/clear-to-send (**RTS/CTS**) to prevent a collision of packets due to a hidden terminal, the Radio terminal comprising (see figure 5 and 7):

an RTS-receiving unit (**NODE 125**) that receives a request-to-send (**RTS**) frame from a base station, to which the radio terminal belongs, during a transmission-

suspend-period in which the radio terminal suspends transmission to prevent the collision of the packets **(NODE 125 receives RTS W/QoS TYPE during Unallowable period, step 720)**; and

an RTR-transmitting unit (NODE 125) that transmits a request-to-receive (RTR, or CTS) frame to the base station (NODE 130) after the transmission-suspend-period has elapsed **(NODE 125 RTR-transmitting unit send (RTR or CTS) frame to base station (NODE 130) after Unallowable period has elapsed)**

wherein when the RTS-receiving unit receives a plurality of RTS frames from the plurality of base stations or from a plurality of other radio terminals during the transmission-suspend-period **(NODE 125 RTS-receiving unit receives RTS W/QoS TYPE 720 and RTS W/QoS TYPE 735 during Unallowable period 725)**, the RTR transmitting unit (NODE 125 RTR transmitting unit) transmits the RTR frame (CTS frame) to the base stations or to the other radio terminals (NODE 130) sequentially in descending order of priority (RTS W/QoS TYPE are received in NODE 125, it is inherently implemented in Redi the responses to RTS W/QoS TYPE (CTS or RTR) is transmitted base on descending order of priority also.

Redi discloses a system and method for collision avoidance in multi-hop packet radio networks. Although Redi does not expressly teach node 130 is a base station and node 125 is a radio terminal, base station and radio terminal are inherently included in Redi.

Alternatively, Redi teaches "For such a multi-hop wireless network to perform effectively, all nodes must, therefore, be prepared to route packets on behalf of other nodes."

Therefore, it would have been obvious to implement node 130 as base station and node 125 as radio terminal in Redi.

With respect to claim 71, Redi discloses an ACK-transmitting unit that transmits as acknowledgement (ACK) frame to the base after having received a data frame that is transmitted from the base station in response to the RTR frame (**ACK step 750**)

***Allowable Subject Matter***

5. Claims 58-60, 62-66, 72-78, 8—82, 84, 87-89 are allowed over prior arts made of record.

6. Claim 70 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The prior arts made of record and not relied upon is considered pertinent to applicant's disclosure.

McKay et al (US 5,844,905) disclose extension to distributed MAC protocol with collision avoidance using RTS/CTS exchange.

Hieda et al (US 5,592,483) disclose data communication apparatus achieving efficient use of the media.

Garcia-Luna-Aceves et al (US 7,002,910 B2) disclose receiver-initiated channel-hopping (RICH) method for wireless communication networks.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brenda Pham whose telephone number is (571) 272-3135. The examiner can normally be reached on Monday-Friday from 9:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild, can be reached on (571) 272-2092.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2600.

October 7, 2008

/Brenda Pham/

Primary Examiner, Art Unit 2616